

SEQUENCE LISTING

<110> CHILDREN'S MEDICAL CENTER CORPORATION
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<120> METHOD FOR TREATING NEUROLOGICAL DISORDERS

<130> 701039-054381-PCT

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<160> 18

<170> PatentIn Ver. 3.3

<210> 1

<211> 40

<212> PRT

<213> Homo sapiens

<400> 1

Arg Ile Tyr Lys Gly Val Ile Gln Ala Ile Gln Lys Ser Asp Glu Gly
 1 5 10 15

His Pro Phe Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu
 20 25 30

Leu Val Gln Lys Tyr Ser Asn Ser
 35 40

<210> 2

<211> 25

<212> PRT

<213> Homo sapiens

<400> 2

Ile Gln Lys Ser Asp Glu Gly His Pro Phe Arg Ala Tyr Leu Glu Ser
 1 5 10 15

Glu Val Ala Ile Ser Glu Glu Leu Val
 20 25

<210> 3

<211> 25

<212> PRT

<213> Homo sapiens

<400> 3

Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu Leu Val Gln
 1 5 10 15

Lys Tyr Ser Asn Ser Ala Leu Gly His
 20 25

<210> 4
<211> 25
<212> PRT
<213> Homo sapiens

<400> 4
Ser Glu Glu Leu Val Gln Lys Tyr Ser Asn Ser Ala Leu Gly His Val
1 5 10 15
Asn Cys Thr Ile Lys Glu Leu Arg Arg
20 25

<210> 5
<211> 25
<212> PRT
<213> Homo sapiens

<400> 5
Ala Leu Gly His Val Asn Cys Thr Ile Lys Glu Leu Arg Arg Leu Phe
1 5 10 15
Leu Val Asp Asp Leu Val Asp Ser Leu
20 25

<210> 6
<211> 40
<212> PRT
<213> Homo sapiens

<400> 6
Arg Ile Tyr Lys Gly Val Ile Gln Ala Ile Gln Lys Ser Asp Glu Gly
1 5 10 15
His Pro Phe Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu
20 25 30
Leu Val Gln Lys Tyr Ser Asn Ser
35 40

<210> 7
<211> 66
<212> PRT
<213> Homo sapiens

<400> 7
Phe Arg Ile Tyr Lys Gly Val Ile Gln Ala Ile Gln Lys Ser Asp Glu
1 5 10 15
Gly His Pro Phe Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu
20 25 30
Glu Leu Val Gln Lys Tyr Ser Asn Ser Ala Leu Gly His Val Asn Cys
35 40 45
Thr Ile Lys Glu Leu Arg Arg Leu Phe Leu Val Asp Asp Leu Val Asp
50 55 60

Ser Leu
65

<210> 8
<211> 473
<212> PRT
<213> Homo sapiens

<400> 8

Met	Lys	Arg	Ala	Ser	Ala	Gly	Gly	Ser	Arg	Leu	Leu	Ala	Trp	Val	Leu
1				5					10					15	
Trp	Leu	Gln	Ala	Trp	Gln	Val	Ala	Ala	Pro	Cys	Pro	Gly	Ala	Cys	Val
			20					25					30		
Cys	Tyr	Asn	Glu	Pro	Lys	Val	Thr	Thr	Ser	Cys	Pro	Gln	Gln	Gly	Leu
		35					40					45			
Gln	Ala	Val	Pro	Val	Gly	Ile	Pro	Ala	Ala	Ser	Gln	Arg	Ile	Phe	Leu
	50					55					60				
His	Gly	Asn	Arg	Ile	Ser	His	Val	Pro	Ala	Ala	Ser	Phe	Arg	Ala	Cys
65					70					75					80
Arg	Asn	Leu	Thr	Ile	Leu	Trp	Leu	His	Ser	Asn	Val	Leu	Ala	Arg	Ile
				85					90					95	
Asp	Ala	Ala	Ala	Phe	Thr	Gly	Leu	Ala	Leu	Leu	Glu	Gln	Leu	Asp	Leu
			100					105					110		
Ser	Asp	Asn	Ala	Gln	Leu	Arg	Ser	Val	Asp	Pro	Ala	Thr	Phe	His	Gly
		115					120					125			
Leu	Gly	Arg	Leu	His	Thr	Leu	His	Leu	Asp	Arg	Cys	Gly	Leu	Gln	Glu
	130					135					140				
Leu	Gly	Pro	Gly	Leu	Phe	Arg	Gly	Leu	Ala	Ala	Leu	Gln	Tyr	Leu	Tyr
145					150					155					160
Leu	Gln	Asp	Asn	Ala	Leu	Gln	Ala	Leu	Pro	Asp	Asp	Thr	Phe	Arg	Asp
			165						170					175	
Leu	Gly	Asn	Leu	Thr	His	Leu	Phe	Leu	His	Gly	Asn	Arg	Ile	Ser	Ser
		180						185					190		
Val	Pro	Glu	Arg	Ala	Phe	Arg	Gly	Leu	His	Ser	Leu	Asp	Arg	Leu	Leu
		195					200					205			
Leu	His	Gln	Asn	Arg	Val	Ala	His	Val	His	Pro	His	Ala	Phe	Arg	Asp
	210					215					220				
Leu	Gly	Arg	Leu	Met	Thr	Leu	Tyr	Leu	Phe	Ala	Asn	Asn	Leu	Ser	Ala
225					230					235					240
Leu	Pro	Thr	Glu	Ala	Leu	Ala	Pro	Leu	Arg	Ala	Leu	Gln	Tyr	Leu	Arg
			245						250					255	
Leu	Asn	Asp	Asn	Pro	Trp	Val	Cys	Asp	Cys	Arg	Ala	Arg	Pro	Leu	Trp
			260					265						270	

Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Glu Val Pro Cys Ser
275 280 285

Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu Lys Arg Leu Ala Ala Asn
290 295 300

Asp Leu Gln Gly Cys Ala Val Ala Thr Gly Pro Tyr His Pro Ile Trp
305 310 315 320

Thr Gly Arg Ala Thr Asp Glu Glu Pro Leu Gly Leu Pro Lys Cys Cys
325 330 335

Gln Pro Asp Ala Ala Asp Lys Ala Ser Val Leu Glu Pro Gly Arg Pro
340 345 350

Ala Ser Ala Gly Asn Ala Leu Lys Gly Arg Val Pro Pro Gly Asp Ser
355 360 365

Pro Pro Gly Asn Gly Ser Gly Pro Arg His Ile Asn Asp Ser Pro Phe
370 375 380

Gly Thr Leu Pro Gly Ser Ala Glu Pro Pro Leu Thr Ala Val Arg Pro
385 390 395 400

Glu Gly Ser Glu Pro Pro Gly Phe Pro Thr Ser Gly Pro Arg Arg Arg
405 410 415

Pro Gly Cys Ser Arg Lys Asn Arg Thr Arg Ser His Cys Arg Leu Gly
420 425 430

Gln Ala Gly Ser Gly Gly Gly Gly Thr Gly Asp Ser Glu Gly Ser Gly
435 440 445

Ala Leu Pro Ser Leu Thr Cys Ser Leu Thr Pro Leu Gly Leu Ala Leu
450 455 460

Val Leu Trp Thr Val Leu Gly Pro Cys
465 470

<210> 9

<211> 473

<212> PRT

<213> Mus musculus

<400> 9

Met Lys Arg Ala Ser Ser Gly Gly Ser Arg Leu Leu Ala Trp Val Leu
1 5 10 15

Trp Leu Gln Ala Trp Arg Val Ala Thr Pro Cys Pro Gly Ala Cys Val
20 25 30

Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser Cys Pro Gln Gln Gly Leu
35 40 45

Gln Ala Val Pro Thr Gly Ile Pro Ala Ser Ser Gln Arg Ile Phe Leu
50 55 60

His Gly Asn Arg Ile Ser His Val Pro Ala Ala Ser Phe Gln Ser Cys

65	70	75	80
Arg Asn Leu Thr Ile	Leu Trp Leu His	Ser Asn Ala Leu Ala	Arg Ile
85	90	95	
Asp Ala Ala Ala Phe Thr Gly	Leu Thr Leu Leu Glu Gln	Leu Asp Leu	
100	105	110	
Ser Asp Asn Ala Gln Leu His	Val Val Asp Pro Thr Thr	Phe His Gly	
115	120	125	
Leu Gly His Leu His Thr	Leu His Leu Asp Arg Cys	Gly Leu Arg Glu	
130	135	140	
Leu Gly Pro Gly Leu Phe Arg Gly	Leu Ala Ala Leu Gln Tyr	Leu Tyr	
145	150	155	160
Leu Gln Asp Asn Asn Leu Gln Ala	Leu Pro Asp Asn Thr Phe	Arg Asp	
165	170	175	
Leu Gly Asn Leu Thr His Leu Phe	Leu His Gly Asn Arg Ile	Pro Ser	
180	185	190	
Val Pro Glu His Ala Phe Arg Gly	Leu His Ser Leu Asp Arg	Leu Leu	
195	200	205	
Leu His Gln Asn His Val Ala Arg	Val His Pro His Ala Phe	Arg Asp	
210	215	220	
Leu Gly Arg Leu Met Thr Leu Tyr	Leu Phe Ala Asn Asn Leu	Ser Met	
225	230	235	240
Leu Pro Ala Glu Val Leu Met Pro	Leu Arg Ser Leu Gln Tyr	Leu Arg	
245	250	255	
Leu Asn Asp Asn Pro Trp Val Cys	Asp Cys Arg Ala Arg Pro	Leu Trp	
260	265	270	
Ala Trp Leu Gln Lys Phe Arg Gly	Ser Ser Ser Glu Val Pro	Cys Asn	
275	280	285	
Leu Pro Gln Arg Leu Ala Asp Arg	Asp Leu Lys Arg Leu Ala Ala	Ser	
290	295	300	
Asp Leu Glu Gly Cys Ala Val Ala	Ser Gly Pro Phe Arg Pro	Ile Gln	
305	310	315	320
Thr Ser Gln Leu Thr Asp Glu Glu	Leu Leu Ser Leu Pro Lys	Cys Cys	
325	330	335	
Gln Pro Asp Ala Ala Asp Lys Ala	Ser Val Leu Glu Pro Gly	Arg Pro	
340	345	350	
Ala Ser Ala Gly Asn Ala Leu Lys	Gly Arg Val Pro Pro Gly	Asp Thr	
355	360	365	
Pro Pro Gly Asn Gly Ser Gly	Pro Arg His Ile Asn	Asp Ser Pro Phe	
370	375	380	
Gly Thr Leu Pro Ser Ser Ala	Glu Pro Pro Leu Thr Ala	Leu Arg Pro	

385 390 395 400

Gly Gly Ser Glu Pro Pro Gly Leu Pro Thr Thr Gly Pro Arg Arg Arg
405 410 415

Pro Gly Cys Ser Arg Lys Asn Arg Thr Arg Ser His Cys Arg Leu Gly
420 425 430

Gln Ala Gly Ser Gly Ala Ser Gly Thr Gly Asp Ala Glu Gly Ser Gly
435 440 445

Ala Leu Pro Ala Leu Ala Cys Ser Leu Ala Pro Leu Gly Leu Ala Leu
450 455 460

Val Leu Trp Thr Val Leu Gly Pro Cys
465 470

<210> 10
<211> 344
<212> PRT
<213> Homo sapiens

<400> 10

Met Lys Arg Ala Ser Ala Gly Gly Ser Arg Leu Leu Ala Trp Val Leu
1 5 10 15

Trp Leu Gln Ala Trp Gln Val Ala Ala Pro Cys Pro Gly Ala Cys Val
20 25 30

Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser Cys Pro Gln Gln Gly Leu
35 40 45

Gln Ala Val Pro Val Gly Ile Pro Ala Ala Ser Gln Arg Ile Phe Leu
50 55 60

His Gly Asn Arg Ile Ser His Val Pro Ala Ala Ser Phe Arg Ala Cys
65 70 75 80

Arg Asn Leu Thr Ile Leu Trp Leu His Ser Asn Val Leu Ala Arg Ile
85 90 95

Asp Ala Ala Ala Phe Thr Gly Leu Ala Leu Leu Glu Gln Leu Asp Leu
100 105 110

Ser Asp Asn Ala Gln Leu Arg Ser Val Asp Pro Ala Thr Phe His Gly
115 120 125

Leu Gly Arg Leu His Thr Leu His Leu Asp Arg Cys Gly Leu Gln Glu
130 135 140

Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala Ala Leu Gln Tyr Leu Tyr
145 150 155 160

Leu Gln Asp Asn Ala Leu Gln Ala Leu Pro Asp Asp Thr Phe Arg Asp
165 170 175

Leu Gly Asn Leu Thr His Leu Phe Leu His Gly Asn Arg Ile Ser Ser
180 185 190

Val Pro Glu Arg Ala Phe Arg Gly Leu His Ser Leu Asp Arg Leu Leu
 195 200 205
 Leu His Gln Asn Arg Val Ala His Val His Pro His Ala Phe Arg Asp
 210 215 220
 Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe Ala Asn Asn Leu Ser Ala
 225 230 235 240
 Leu Pro Thr Glu Ala Leu Ala Pro Leu Arg Ala Leu Gln Tyr Leu Arg
 245 250 255
 Leu Asn Asp Asn Pro Trp Val Cys Asp Cys Arg Ala Arg Pro Leu Trp
 260 265 270
 Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Glu Val Pro Cys Ser
 275 280 285
 Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu Lys Arg Leu Ala Ala Asn
 290 295 300
 Asp Leu Gln Gly Cys Ala Val Ala Thr Gly Pro Tyr His Pro Ile Trp
 305 310 315 320
 Thr Gly Arg Ala Thr Asp Glu Glu Pro Leu Gly Leu Pro Lys Cys Cys
 325 330 335
 Gln Pro Asp Ala Ala Asp Lys Ala
 340

<210> 11
 <211> 310
 <212> PRT
 <213> Homo sapiens

<400> 11
 Met Lys Arg Ala Ser Ala Gly Gly Ser Arg Leu Leu Ala Trp Val Leu
 1 5 10 15
 Trp Leu Gln Ala Trp Gln Val Ala Ala Pro Cys Pro Gly Ala Cys Val
 20 25 30
 Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser Cys Pro Gln Gln Gly Leu
 35 40 45
 Gln Ala Val Pro Val Gly Ile Pro Ala Ala Ser Gln Arg Ile Phe Leu
 50 55 60
 His Gly Asn Arg Ile Ser His Val Pro Ala Ala Ser Phe Arg Ala Cys
 65 70 75 80
 Arg Asn Leu Thr Ile Leu Trp Leu His Ser Asn Val Leu Ala Arg Ile
 85 90 95
 Asp Ala Ala Ala Phe Thr Gly Leu Ala Leu Leu Glu Gln Leu Asp Leu
 100 105 110
 Ser Asp Asn Ala Gln Leu Arg Ser Val Asp Pro Ala Thr Phe His Gly
 115 120 125

Leu Gly Arg Leu His Thr Leu His Leu Asp Arg Cys Gly Leu Gln Glu
 130 135 140
 Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala Ala Leu Gln Tyr Leu Tyr
 145 150 155 160
 Leu Gln Asp Asn Ala Leu Gln Ala Leu Pro Asp Asp Thr Phe Arg Asp
 165 170 175
 Leu Gly Asn Leu Thr His Leu Phe Leu His Gly Asn Arg Ile Ser Ser
 180 185 190
 Val Pro Glu Arg Ala Phe Arg Gly Leu His Ser Leu Asp Arg Leu Leu
 195 200 205
 Leu His Gln Asn Arg Val Ala His Val His Pro His Ala Phe Arg Asp
 210 215 220
 Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe Ala Asn Asn Leu Ser Ala
 225 230 235 240
 Leu Pro Thr Glu Ala Leu Ala Pro Leu Arg Ala Leu Gln Tyr Leu Arg
 245 250 255
 Leu Asn Asp Asn Pro Trp Val Cys Asp Cys Arg Ala Arg Pro Leu Trp
 260 265 270
 Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Glu Val Pro Cys Ser
 275 280 285
 Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu Lys Arg Leu Ala Ala Asn
 290 295 300
 Asp Leu Gln Gly Cys Ala
 305 310

<210> 12
 <211> 344
 <212> PRT
 <213> Rattus norvegicus

<400> 12
 Met Lys Arg Ala Ser Ser Gly Gly Ser Arg Leu Pro Thr Trp Val Leu
 1 5 10 15
 Trp Leu Gln Ala Trp Arg Val Ala Thr Pro Cys Pro Gly Ala Cys Val
 20 25 30
 Cys Tyr Asn Glu Pro Lys Val Thr Thr Ser Arg Pro Gln Gln Gly Leu
 35 40 45
 Gln Ala Val Pro Ala Gly Ile Pro Ala Ser Ser Gln Arg Ile Phe Leu
 50 55 60
 His Gly Asn Arg Ile Ser Tyr Val Pro Ala Ala Ser Phe Gln Ser Cys
 65 70 75 80
 Arg Asn Leu Thr Ile Leu Trp Leu His Ser Asn Ala Leu Ala Gly Ile
 85 90 95

Asp Ala Ala Ala Phe Thr Gly Leu Thr Leu Leu Glu Gln Leu Asp Leu
 100 105 110
 Ser Asp Asn Ala Gln Leu Arg Val Val Asp Pro Thr Thr Phe Arg Gly
 115 120 125
 Leu Gly His Leu His Thr Leu His Leu Asp Arg Cys Gly Leu Gln Glu
 130 135 140
 Leu Gly Pro Gly Leu Phe Arg Gly Leu Ala Ala Leu Gln Tyr Leu Tyr
 145 150 155 160
 Leu Gln Asp Asn Asn Leu Gln Ala Leu Pro Asp Asn Thr Phe Arg Asp
 165 170 175
 Leu Gly Asn Leu Thr His Leu Phe Leu His Gly Asn Arg Ile Pro Ser
 180 185 190
 Val Pro Glu His Ala Phe Arg Gly Leu His Ser Leu Asp Arg Leu Leu
 195 200 205
 Leu His Gln Asn His Val Ala Arg Val His Pro His Ala Phe Arg Asp
 210 215 220
 Leu Gly Arg Leu Met Thr Leu Tyr Leu Phe Ala Asn Asn Leu Ser Met
 225 230 235 240
 Leu Pro Ala Glu Val Leu Val Pro Leu Arg Ser Leu Gln Tyr Leu Arg
 245 250 255
 Leu Asn Asp Asn Pro Trp Val Cys Asp Cys Arg Ala Arg Pro Leu Trp
 260 265 270
 Ala Trp Leu Gln Lys Phe Arg Gly Ser Ser Ser Gly Val Pro Ser Asn
 275 280 285
 Leu Pro Gln Arg Leu Ala Gly Arg Asp Leu Lys Arg Leu Ala Thr Ser
 290 295 300
 Asp Leu Glu Gly Cys Ala Val Ala Ser Gly Pro Phe Arg Pro Phe Gln
 305 310 315 320
 Thr Asn Gln Leu Thr Asp Glu Glu Leu Leu Gly Leu Pro Lys Cys Cys
 325 330 335
 Gln Pro Asp Ala Ala Asp Lys Ala
 340

<210> 13
 <211> 310
 <212> PRT
 <213> Rattus norvegicus

<400> 13
 Met Lys Arg Ala Ser Ser Gly Gly Ser Arg Leu Pro Thr Trp Val Leu
 1 5 10 15
 Trp Leu Gln Ala Trp Arg Val Ala Thr Pro Cys Pro Gly Ala Cys Val
 20 25 30

<211> 66
<212> PRT
<213> Homo sapiens

<400> 14
Arg Ile Tyr Lys Gly Val Ile Gln Ala Ile Gln Lys Ser Asp Glu Gly
1 5 10 15
His Pro Phe Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu
20 25 30
Leu Val Gln Lys Tyr Ser Asn Ser Ala Leu Gly His Val Asn Cys Thr
35 40 45
Ile Lys Glu Leu Arg Arg Leu Phe Leu Val Asp Asp Leu Val Asp Ser
50 55 60
Leu Lys
65

<210> 15
<211> 40
<212> PRT
<213> Homo sapiens

<400> 15
Arg Ile Tyr Lys Gly Val Ile Gln Ala Ile Gln Lys Ser Asp Glu Gly
1 5 10 15
His Pro Phe Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu
20 25 30
Leu Val Gln Lys Tyr Ser Asn Ser
35 40

<210> 16
<211> 37
<212> PRT
<213> Homo sapiens

<400> 16
Arg Ile Tyr Lys Gly Val Ile Gln Lys Ser Asp Glu Gly His Pro Phe
1 5 10 15
Arg Ala Tyr Leu Glu Ser Glu Val Ala Ile Ser Glu Glu Leu Val Gln
20 25 30
Lys Tyr Ser Asn Ser
35

<210> 17
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 17
tatggctagc tatgcacata ctttcacaga att

33

<210> 18
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 18
ctatttaa atcattgctg taatcataat ttgtc

35